Energy

The Review !!

What you have to know!!

**What is Energy**

1. If the transfer of energy is work, than power is the rate at which energy id transferred, or the amount of energy is transferred in a unit of time
2. Power = Energy transferred/Time
3. Two basic kinds of energy are Kinetic energy and potential energy
4. Kinetic energy = ½ x Mass x Velocity
5. Gravitational Potential Energy = Weight x Height

Vocabulary

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| --- | --- |
| Energy |  |
| Kinetic Energy |  |
| Potential Energy |  |
| Gravitational Potential Energy |  |
| Elastic Potential Energy |  |

**Forms of Energy**

1. You can find an object’s mechanical energy by adding the objects’s kinetic energy and potential energy
2. Mechanical Energy = Kinetic Energy plus Potential Energy
3. Forms of energy associated with particles of an object include thermal energy, electrical energy, chemical energy, nuclear energy , and electromagnetic energy

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| --- | --- |
| Mechanical Energy |  |
| Thermal energy |  |
| Electrical energy |  |
| Chemical Energy |  |
| Nuclear Energy |  |
| Electromagnetic Energy |  |

**Energy Transformation ad Conservation**

1. Most forms of energy can be transformed into other forms
2. One of the most common energy transformation is the transformations between potential energy and kinetic energy
3. According to the laws of conservation of energy, energy cannot be created or destroyed

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| Energy transformation |  |
| Law of Conservation of Energy |  |
| Matter |  |

What do you need to calculate the kinetic energy of a ball?

Calculate the GPE of a bungee jumper at 1000 meters up who has a mass of 34 Kg.

Calculate the KE of the same bungee jumper traveling at a velocity of 50 m/s. What is the total energy?

Create an example of a three step energy conversion: